

Dep & Ref



PATENT
P56382

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

2007 MAY 30 11 4: 59

In re Application of:

JOO-HYOUNG LEE et al.

Serial No.: 09/885,100

Examiner: TRAN, TRANG U.

Filed: 21 June 2001

Art Unit: 2622

For: DISPLAYING APPARATUS AND METHOD FOR CONTROLLING THE SAME

REQUEST FOR REFUND

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Attn: Refunds

Director of the U.S. Patent & Trademark Office
2051 Jamieson Ave, Suite 300
Alexandria, VA 22314

Sir:

Applicant respectfully request for refund of extra claim fee \$200.00 under fee code [1201]

overcharged on 27 May 2005 in the above-referenced application for the reason as follows:

1. On 19 November 2003, a non-final Office action (Paper No. 4) was mailed.
2. On 20 February 2004, Applicant filed an Amendment and a Petition for One-month Extension of Time, in reply to Paper No. 4, together with Check #45340 in amount of \$290.00 (extra total claim fee: \$180.00 (31 - 21 = 10 extra x \$18.00 = \$180.00) and one-month extension of time fee: \$110.00). In the Amendment, claims 2, 3, 13 and 14 were cancelled, and claims 22-35 were newly added. Claims 1, 4-12 and 15-35 were pending in the Amendment filed on 20 February 2004. The number of total

claims was 31 and the number of independent claims was 3 in the Amendment.

3. On 20 May 2004, a final Office action (Paper No. 8) was mailed.
4. On 14 July 2004, Applicant filed an Amendment, together with Check #45813 in amount of \$86.00 (extra independent claim fee ($4 - 3 = 1$ extra independent claim x \$86.00 = \$86.00)). In the Amendment, claims 25 was cancelled and claim 32 was amended to become an independent claim. Claims 1, 4-12, 15-24 and 26-35 were pending in the Amendment filed on 14 July 2004. The number of total claims was 30 and the number of independent claims was 4 in the Amendment.
5. On 3 November 2004, a non-final Office action (Paper No. 20041021) was mailed. The finality of the last Office action has been withdrawn.
6. On 30 December 2004, Applicant filed a Request for Clarification and Restart of Period for Response. No fee is incurred by filing the Request.
7. On 4 March 2005, a telephone conference was conducted with the Examiner, and it was agreed that the period for response to Paper No. 20041021 was restarted from 4 March 2005 (the date of the telephone conference).

8. On 19 May 2005, Applicant filed an Amendment, in reply to Paper No. 20041021 and to the telephone conference between the Examiner and the Applicant's undersigned attorney on 4 March 2005 during which the period for response to Paper No. 20041021 was restarted from the date of the telephone conference.

In the Amendment, claim 36 was newly added. Claims 1, 4-12, 15-24 and 26-36 were pending in the Amendment. The number of total claims was 31 and the number of independent claims was 4 in the Amendment. No fee was incurred by the Amendment filed on 19 May 2005, in view of the facts that the highest number of total claims previously paid for was 31 and the highest number of total independent claims previously paid for was 4 in this application.

	Amendment filed on 19 May 2005	The highest number previously paid for
the number of total claims	31	31
the number of independent claims	4	4

9. On 27 May 2005, the amount of \$200.00 under fee code [1201] was charged to the Applicant's undersigned Attorney's Deposit Account No. 02-4943.

REMARKS

In view of the facts that Applicant has properly paid extra claim fee of \$86.00 for addition of one (1) independent claim in excess of 3 on 14 July 2004, and that the number of total independent claims was 4 in the Amendment filed on 19 May 2005, no fee was incurred by the Amendment filed on 19 May 2005. Therefore, the amount \$200.00 under fee code [1201] was overcharged on 27 May 2005, and the amount \$200.00 should be refunded.

Accordingly, the Commissioner is respectfully requested to immediately refund \$200.00 under fee code [1201] overcharged on 27 May 2005 to Applicant's undersigned attorney's Deposit Account No. 02-4943.

Please refer to the attached documents for the above-reference patent application.

Respectfully submitted,



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Folio: P56382
Date: 25 May 2007
I.D.: REB/sb

- Enclosures:
1. A copy of Amendment filed on 19 May 2005
 2. A copy of date-stamped postcard receipt dated 19 May 2005
 3. A copy of Amendment, Fee Transmittal and check #45813, filed on 14 July 2004
 4. A copy of date-stamped postcard receipt dated 14 July 2004
 5. A copy of Amendment, Fee Transmittal and check #45340, filed on 20 February 2004
 6. A copy of date-stamped postcard receipt dated 20 February 2004
 7. A copy of Monthly Statement of Deposit Account dated 5/31/05



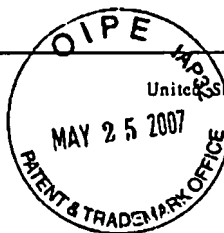
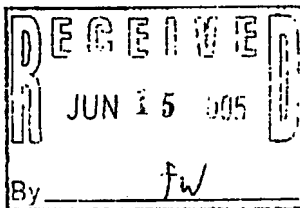
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5	25	05	236	11134383	P57364	1111	500.00	23053.41
5	25	05	237	11134383	P57364	1311	200.00	22853.41
5	27	05	1	9885100	P56382	1201	200.00	22653.41
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					23853.41	1200.00	0.00	22653.41



P56382 19 May 2005

Applicant: JOO-HYOUNG LEE *et al.*

S.N.: 09/885,100

Filed: 21 June 2001

For: *DISPLAY APPARATUS AND METHOD FOR CONTROLLING*

Document(s) filed:

1. Amendment (Paper No. 15) - responsive to Paper No. 20041021 dated 11/03/04 and an telephone interview dated 3/04/05

COPY





PATENT
P56382

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

JOO-HYOUNG LEE *et al.*

COPY

Serial No.: 09/885,100

Examiner: TRAN, TRANG U.

Filed: 21 June 2001

Art Unit: 2614

For: DISPLAYING APPARATUS AND METHOD FOR CONTROLLING THE
SAME

AMENDMENT

Paper No. 15

Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the non-final Office action mailed on 3 November 2004 (Paper No. 20041021), and to the telephone conference between the Examiner and the Applicant's undersigned attorney on the 4th of March 2005 during which the period for response to Paper No. 20041021 was restarted from the date of the telephone conference, entry of the following amendments and remarks, re-examination and reconsideration are respectfully requested.

Folio: P56382
Date: 5/19/05
I.D.: REB/JGS/kf

IN THE CLAIMS

Please amend claims 1 and 22, and add claim 36, as follows:

1 1. (Currently Amended) A displaying apparatus, comprising:

2 a displaying part for displaying a picture;

3 a selection input part for selecting for display a highlight portion within the picture
4 of the displaying part;

5 a storage part for storing selection data according to the selection made through the
6 selection input part; and

7 a controller for generating a highlight signal corresponding to the highlight portion
8 based on the selection data, for composing the highlight signal with video signals to thereby
9 generate composed video signals, and for displaying the highlight portion within the picture
10 of the displaying part based on the composed video signals;

11 wherein the controller adds the highlight signal to the video signals to thereby
12 increase the level of the composed video signals of the highlight portion, and the controller
13 subtracts the highlight signal from the video signals to thereby decrease the level of the
14 composed video signals of the highlight portion; and

15 wherein said displaying part comprises a control key part for controlling a size and
16 a position of the highlight portion, and said controller comprises an adjuster part for
17 adjusting the picture in response to external signals adjusted by said control key part.

Claims 2 and 3. (Canceled)

1 4. (Original) The displaying apparatus according to claim 1, wherein the selection
2 input part comprises a size control key for controlling a size of the highlight portion.

1 5. (Original) The displaying apparatus according to claim 4, wherein the selection
2 input part comprises a position control key for controlling a position of the highlight portion.

1 6. (Original) The displaying apparatus according to claim 5, wherein the highlight
2 signal comprises at least one color signal corresponding to the video signals; and
3 the selection input part comprises a signal control key for controlling a level of said
4 at least one color signal.

1 7. (Original) The displaying apparatus according to claim 4, wherein the highlight
2 signal comprises at least one color signal corresponding to the video signals; and
3 the selection input part comprises a signal control key for controlling a level of said
4 at least one color signal.

1 8. (Original) The displaying apparatus according to claim 1, wherein the highlight
2 signal comprises at least one color signal corresponding to the video signals; and
3 the selection input part comprises a signal control key for controlling a level of said

4 at least one color signal.

1 9. (Original) The displaying apparatus according to claim 1, wherein the selection
2 input part comprises a position control key for controlling a position of the highlight portion.

1 10. (Original) The displaying apparatus according to claim 9, wherein the highlight
2 signal comprises at least one color signal corresponding to the video signals; and
3 the selection input part comprises a signal control key for controlling a level of said
4 at least one color signal.

1 11. (Previously Presented) A method for controlling a displaying apparatus,
2 comprising the steps of:
3 selecting for display a highlight portion within a picture of the displaying apparatus;
4 generating a highlight signal corresponding to the highlight portion;
5 composing the highlight signal with video signals to thereby generate composed video
6 signals; and
7 displaying the highlight portion within the picture of the displaying apparatus;
8 wherein the composing step comprises adding the highlight signal to the video signals
9 to thereby increase a level of the composed video signals, and subtracting the highlight
10 signal from the video signals to thereby decrease a level of the composed video signals.

1 12. (Original) The method according to claim 11, further comprising the step of
2 storing data selected in the selecting step.

Claims 13 and 14. (Canceled)

1 15. (Original) The method according to claim 11, further comprising the step of
2 controlling a size of the highlight portion.

1 16. (Original) The method according to claim 15, further comprising the step of
2 controlling a position of the highlight portion.

1 17. (Original) The method according to claim 16, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one color
4 signal.

1 18. (Original) The method according to claim 15, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one color
4 signal.

1 19. (Original) The method according to claim 11, further comprising the step of
2 controlling a position of the highlight portion.

1 20. (Original) The method according to claim 19, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one color
4 signal.

1 21. (Original) The method according to claim 11, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one color
4 signal.

1 22. (Currently Amended) A display apparatus, comprising:
2 signal generating means for generating video signals;
3 displaying means for displaying a picture based on the video signals generated by the
4 signal generating means;
5 selection means for selecting for displaying a highlight portion within the picture of
6 the displaying means;
7 storage means for storing selection data according to the selection made through the
8 selection means; and

9 control means for generating a highlight signal corresponding to the highlight portion
10 based on the selection data;

11 wherein said control means comprises a highlight signal generating part for generating
12 the highlight signal, and a signal composing part connected to said highlight signal
13 generating part and to said signal generating means for combining the highlight signal with
14 the video signals generated by the signal generating means; and

15 wherein said control means further comprises an image sharpness part connected
16 between said selection means and said signal composing part for adjusting a signal size
17 representing a borderline of the highlight portion according to a selection by said selection
18 means, and for supplying the adjusted signal size to said signal composing part.

1 23. (Previously Presented) The apparatus of claim 22, wherein said highlight signal
2 generating part comprises an R highlight signal generating part, a G highlight signal
3 generating part, and a B highlight signal generating part for generating R, G and B highlight
4 signals, respectively.

1 24. (Previously Presented) The apparatus of claim 23, wherein the video signals
2 generated by said signal generating means comprise R, G and B video signals, and the R
3 highlight signal generating part, the G highlight signal generating part, and the B highlight
4 signal generating part adjust the sizes of the R, G and B video signals, respectively.

Claim 25. (Canceled)

1 26. (Previously Presented) The apparatus of claim 22, wherein said signal composing
2 part combines the video signals generated by said signal generating means with borderline
3 signals indicating the borderline of the highlight portion outputted by said image sharpness
4 part, and outputs a resultant combined signal to said displaying means.

1 27. (Previously Presented) The apparatus of claim 22, wherein said displaying means
2 comprises an on screen display (OSD) selecting part and a control key part for controlling
3 a size and a position of the highlight portion.

1 28. (Previously Presented) The apparatus of claim 27, wherein said control key part
2 comprises a size control key for controlling the size of the highlight portion, a position
3 control key for controlling the position of the highlight portion, and a signal control key for
4 controlling a value of the highlight signal.

1 29. (Previously Presented) The apparatus of claim 27, wherein said control means
2 further comprises an adjuster part for adjusting the picture in response to external signals
3 adjusted by said control key part.

1 30. (Previously Presented) The apparatus of claim 29, wherein selection of

2 highlighting by a user through said selection means causes highlight signals to be supplied
3 to said adjuster part through an SCL port and an SDA port connecting said selection means
4 to said control means.

1 31. (Previously Presented) The apparatus of claim 27, wherein a user can employ the
2 OSD selecting part to select the OSD so that said highlight portion and said OSD are
3 displayed simultaneously.

1 32. (Previously Presented) A display apparatus, comprising:
2 signal generating means for generating video signals;
3 displaying means for displaying a picture based on the video signals generated by the
4 signal generating means;
5 selection means for selecting for displaying a highlight portion within the picture of
6 the displaying means;
7 storage means for storing selection data according to the selection made through the
8 selection means; and
9 control means for generating a highlight signal corresponding to the highlight portion
10 based on the selection data;
11 wherein said control means comprises a highlight signal generating part for generating
12 the highlight signal, and a signal composing part for combining the highlight signal with the
13 video signals generated by the signal generating means; and

14 wherein said control means further comprises a clock generating part for generating
15 a clock signal to set up a size and a position of the highlight portion.

1 33. (Previously Presented) The apparatus of claim 32, said control means further
2 comprising an adjuster part connected to said clock generating part for receiving the clock
3 signal, and for adjusting a size of the clock signal according to a control signal from said
4 selection means.

1 34. (Previously Presented) The apparatus of claim 22, said control means further
2 comprising input terminals for receiving a control signal for controlling brightness of the
3 video signals.

1 35. (Previously Presented) The apparatus of claim 34, said video signals comprising
2 R, G and B signals, and said input terminals receiving R-brightness, G-brightness and B-
3 brightness signals, respectively.

1 36. (New) The displaying apparatus according to claim 1, wherein selection of
2 highlighting by a user through said selection input part causes highlight signals to be
3 supplied to said adjuster part through an SCL port and an SDA port connecting said selection
4 input part to said controller.

REMARKS

The non-final Office action mailed on 3 November 2004 (Paper No. 20041021) has been carefully considered.

Claims 1 and 22 are being amended and claim 36 is being added. Thus, claims 1, 4 thru 12, 15 thru 24 and 26 thru 36 are pending in the application.

Prior to considering the substance of the current Office action, a review of the prosecution history of this application is appropriate. A final Office action (Paper No. 8) was mailed on May 20, 2004. An Amendment After Final (Paper No. 9) was filed on July 14, 2004. The current third Office action (Paper No. 20041021) was mailed on November 3, 2004. Due to the fact that the pending claims were not listed correctly in the third Office action, and due to other inconsistencies and deficiencies which raised questions as to the status of claims 22, 25 and 30, a Request for Clarification was filed on December 30, 2004.

After receipt of the current Office action, several telephone interviews were conducted with Examiner Tran and Supervisory Primary Examiner Miller on February 2, March 3, and March 4, 2005. In those telephone interviews, the undersigned attorney was informed that, under the new internal system of the U.S. Patent & Trademark Office, the Amendment After Final filed on July 14, 2004 was never entered, and that the current non-final Office action (Paper No. 20041021) dated November 3, 2004 was based upon the non-

entry of the Amendment After Final.

By way of explanation, Supervisory Primary Examiner Miller further stated that the Legal Instrument Examiner had never entered the Amendment After Final, but the Patent Examiner had determined that the previous final rejection was incorrect, that the arguments set forth in our Amendment After Final were correct, and that the examination should be reopened on the merits. Subsequent to that determination, the Patent Examiner had examined the then pending claims, despite the fact that the Amendment After Final should have been entered.

Finally, in the telephone interview conducted on March 4, 2004, it was agreed with Supervisory Primary Examiner Miller that, since two months had passed since the filing of the Request for Clarification, and rather than risk further delay in the examination of this application, the undersigned attorney would prepare and file an Amendment in response to the current Office action, but with the understanding that the previously filed Amendment After Final had in fact been entered, and should have been entered as of March 4, 2005.

Therefore, this Amendment is being prepared and filed based on the presumption that the previously filed Amendment After Final has in fact been entered as of March 4, 2005. Moreover, since the non-entry of the Amendment After Final prior to that date occurred due to no fault of the Applicant, it was requested and agreed in the telephone interview that the

statutory period for response be reset to commence as of the date of entry of the Amendment After Final (March 4, 2005) so that the three-month statutory period for response expires on June 4, 2005.

In paragraph 4 of the Office action, the Examiner rejected claims 1, 4 thru 12, 15 thru 22 and 27 thru 34 under 35 U.S.C. §102 for alleged anticipation by Kuo *et al.*, U.S. Patent No. 6,226,040. In paragraph 6 of the Office action, the Examiner rejected claims 23, 24, 30 and 35 under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040 in view of Suen *et al.*, U.S. Patent No. 6,552,750. In paragraph 7 of the Office action, the Examiner rejected claims 25 and 26 under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040 in view of Kim, U.S. Patent No. 6,473,130. For the reasons stated below, it is submitted that the invention recited in the claims, as now amended, is distinguishable from the prior art cited by the Examiner so as to preclude rejection under 35 U.S.C. §103.

The latter paragraph states the rejection of the claims as contained in the current Office action. However, there are inconsistencies between the rejection of the claims as stated in the current Office action and the previous rejection of the claims as stated in the final Office action of May 20, 2004 (Paper No. 8).

Specifically, whereas independent claim 1 and associated dependent claims 4 thru 10, as well as independent claim 11 and associated dependent claims 12 and 15 thru 21, were

previously rejected under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040, those claims are now rejected under 35 U.S.C. §102 for alleged anticipation by Kuo *et al.* '040.

Furthermore, whereas independent claim 22, which was amended in the Amendment After Final to include the recitation of dependent claim 25, is now rejected under 35 U.S.C. §102 for alleged anticipation by Kuo *et al.* '040, in the previous final Office action (Paper No. 8), independent claim 22 was rejected under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040, while dependent claim 25 was rejected under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040 in view of Kim '130. In addition, dependent claims 28 thru 31 (which are dependent from independent claim 22) are currently rejected under 35 U.S.C. §102 for alleged anticipation by Kuo *et al.* '040, whereas in the final Office action (Paper No. 8), dependent claims 28 thru 31 were rejected under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040.

Finally, independent claim 32 and associated dependent claim 33 are currently rejected under 35 U.S.C. §102 for alleged anticipation by Kuo *et al.* '040, whereas in the final Office action (Paper No. 8), those claims were rejected under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040.

In rejecting independent claims 1 and 11 under 35 U.S.C. §103 for alleged

unpatentability over Kuo *et al.* '040 in the previous final Office action (Paper No. 8), the Examiner admitted (in paragraph 3 on page 4 of the final Office action) that Kuo *et al.* '040 does not disclose a controller which adds a highlight signal to video signals to thereby increase the level of the composed video signals of the highlight portion, and does not disclose a controller which subtracts the highlight signal from the video signals to thereby decrease the level of the composed video signals of the highlight portion. Thus, based on this previous admission by the Examiner, the current rejection of independent claims 1 and 11 under 35 U.S.C. §102 for alleged anticipation is clearly inappropriate.

Further considering the previous rejection of claims 1 and 11 under 35 U.S.C. §103, in the final Office action (Paper No. 8), the Examiner took "Official Notice" that "it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the old and well known superimposing and desuperimposing the highlight signal on the video signal ... since it merely amounts of [*sic*] selecting an alternative equivalent device for adding highlight signal and video signal" (quoting from the paragraph bridging pages 4 and 5 of the final Office action).

In support of the taking of "Official Notice", the Examiner cited (in paragraph 1 of the final Office action) Lake Jr., U.S. Patent No. 4,809,070. The Examiner cited this patent "to suggest the capabilities of adding and subtracting the luminance along edges of the luminance field (highlights and shadows)" (quoting from page 3, lines 3-4 of the final Office

action). For the reasons stated below, it is submitted that Lake, Jr. '070 is unrelated and not applicable to the pertinent recitations contained in independent claims 1 and 11 of the present application.

Specifically, referring to column 1, lines 8-28 of Lake, Jr. '070 (as cited by the Examiner on page 2 of the final Office action), the patent states that, "[a]mong the video effects that can be applied to an array of sample values representing a luminance field to produce an enhanced array which represents a somewhat different luminance field is an effect known as embossing" (see column 1, lines 8-12 of Lake, Jr. '070). The patent then states that edge information is extracted from an image, and used to add luminance along edges of one polarity and subtract luminance along edges of the opposite polarity" (quoting from column 1, lines 12-15 of the patent). In the latter respect, according to the patent, the "term 'polarity' as applied to an edge is intended to be understood as referring to the sign of the change in luminance across the edge when the edge is traversed in a particular direction" (quoting from column 1, lines 17-18 of the patent). Thus, if the luminance increases, the edge is considered to be a positive polarity, and if the luminance decreases, the edge is considered to be a negative polarity (see column 1, lines 18-21 of the patent).

The Lake, Jr. '070 patent then proceeds to state that, "[w]hen luminance is added and subtracted along edges in the original luminance field, the areas of increased and reduced luminance appear to the eye as highlights and shadows which provide three-dimensional cues

for the eye and achieve an embossed texture appearance" (quoting from column 1, lines 23-28 of the patent). Thus, whereas the patent refers to the addition and subtraction of luminance along edges in an original luminance field (referring to column 1, lines 23-25 of the patent), this is not seen to have much, if any, relevance to the claimed feature whereby a controller adds a highlight signal to video signals in their entirety (not merely to edges) to thereby increase the level of composed video signals of a highlight portion, and whereby the controller subtracts the highlight signal from the video signals in their entirety to thereby decrease the level of the composed video signal of the highlight portion, and this contradicts the allegation by the Examiner in the sentence bridging pages 2 and 3 of the final Office.

More specifically, whereas Lake, Jr. '070 discloses the addition or subtraction of luminance along edges of an image, the claimed feature at issue involves the addition or subtraction of a highlight signal or highlight signals to or from video signals in order to increase or decrease the level of composed video signals of a highlight portion. More specifically, Lake, Jr. '070 appears to add luminance to the edges of an image, whereas the feature recited in the claims involves the addition or subtraction of a highlight signal to video signals in their entirety. Furthermore, a review of Lake, Jr. '070 fails to reveal any mention whatsoever of a highlight signal or highlight signals added to or subtracted from video signals, and fails to mention composed video signals of highlight portion, such composed signals resulting from the composing of a highlight signal or highlight signals with the video signals.

As a result of the above, it is submitted that the current rejection under 35 U.S.C. §102 is clearly inappropriate since, by the Examiner's own admission in the final Office action (Paper No. 8), Kuo *et al.* '040 does not disclose each and every element of claims 1 and 11. However, even if the previous rejection under 35 U.S.C. §103 is applied against independent claims 1 and 11, based on the combination of Kuo *et al.* '040 and the Official Notice previously asserted by the Examiner, a substantial question exists as to the propriety of the taking of "Official Notice" on the part of the Examiner, and this raises a question as to the validity of a rejection under 35 U.S.C. §103 of claims 1 and 11.

In addition, there is nothing within the "four corners" of the disclosure of Kuo *et al.* '040 which would suggest to or instruct a person of ordinary skill in the art as to the necessity or desirability of modifying the disclosure of Kuo *et al.* '040 in the manner suggested by the Examiner. That is, Kuo *et al.* '040 does not contain any suggestion or instruction which would lead a person of ordinary skill in the art to modify the disclosure of Kuo *et al.* '040 so as to provide the controller with the capability of adding or subtracting a highlight signal to or from video signals in order to increase or decrease the level of the composite video signals of the highlight portion.

With respect to independent claim 1, it should be noted that the claim is being amended herein so as to further distinguish the invention from the prior art cited by the Examiner. Specifically, independent claim 1 is being amended to recite that the displaying

part comprises a control key part for controlling a size and a position of the highlight portion, and that the controller comprises an adjuster part for adjusting the picture in response to external signals adjusted by the control key part. The latter recitation further distinguishes the invention of independent claim 1 from the prior art cited by the Examiner since neither Kuo *et al.* '040 nor any of the other references cited in the Office action discloses or suggests the latter feature as now recited in the last paragraph of amended independent claim 1. Thus, for these reasons in addition to the reasons already stated above, the invention of independent claim 1 is distinguishable from the prior art cited by the Examiner.

Based on the above, it is respectfully submitted that independent claims 1 and 11, and their associated dependent claims, recite the invention in a manner distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §103.

Turning to consideration of independent claim 22, in the final Office action (Paper No. 8), dependent claim 25 was rejected under 35 U.S.C. §103 based on the combination of Kuo *et al.* '040 with Kim '130. Moreover, in the Amendment After Final filed on 14 July 2004, independent claim 22 was amended to include the recitation of dependent claim 25, which was canceled.

In formulating the rejection of claim 25 under 35 U.S.C. §103, the Examiner admitted that Kuo *et al.* '040 did not disclose an image sharpness part for adjusting a signal size

representing a borderline of a highlight portion according to a selection by selection means, and for supplying the adjusted signal size to the signal composing part, as previously recited in dependent claim 25. Thus, based on the previous admission by the Examiner, the current rejection of claim 22 (which includes the recitation of previous dependent claim 25) under 35 U.S.C. §102 for alleged anticipation by Kuo *et al.* '040 is clearly not proper. Moreover, the same is true of the rejection of dependent claims 27 thru 31 and 34, which are currently rejected under 35 U.S.C. §102 for alleged anticipation by Kuo *et al.* '040, but which were previously rejected (in the final Office action, Paper No. 8) under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040. For a latter reason, the current rejection of dependent claims 27 thru 31 and 34 under 35 U.S.C. §102 for alleged anticipation by Kuo *et al.* '040 is also not proper.

With respect to the rejection of independent claim 22, it is noted that, on page 5 of the current Office action, the Examiner merely states that claim 22 is "rejected for the same reason as discussed in claim 1" (quoting from page 5, line 4 of the Office action). However, it is to be noted that, whereas independent claim 1 recites the control means in general terms, independent claim 22 recites the control means as comprising a highlight signal generating part for generating the highlight signal, and a signal composing part for combining the highlight signal with the video signals generated by the signal generating means (*see* the last paragraph of original independent claim 22). However, in rejecting independent claim 22, the Examiner does not state any correspondence between the recited "highlight signal

generating part" and "signal composing part", on the one hand, and elements of Kuo *et al.* '040, on the other hand. Thus, it is not clear from the Office action what elements of Kuo *et al.* '040 are considered by the Examiner to correspond to the "highlight signal generating part" and the "signal composing part" recited in the last paragraph of original independent claim 22.

Nevertheless, as stated above, independent claim 22 was amended to include the recitation of dependent claim 25, which was canceled. In rejecting claim 25 (in paragraph 5 of the final Office action), the Examiner cited the combination of Kuo *et al.* '040 and Kim '130, and admitted that Kuo *et al.* '040 did not disclose the provision of control means further comprising an image sharpness part for adjusting a signal size representing a borderline of the highlight portion according to a selection by the selection means, and for supplying the adjusted signal size to the signal composing part (*see* the second sub-paragraph of paragraph 5 on page 10 of the final Office action). However, the Examiner alleged that Kim '130 "teaches that the sub-picture display apparatus according to the present invention provides an effect capable of distinctively displaying the sub-picture more definitely and clearly, by thickening the boundary portion of the sub-picture and varying the brightness of the sub-picture to become brighter, in the case that the main picture is complicated spatially or an amount of temporal movement of the main picture is large" (quoting from page 10, lines 11-16 of the final Office action). In that regard, the Examiner cited Figure 4 and column 3, line 5 - column 4, line 8 of Kim '130.

However, Figure 4 and the cited portion of Kim '130 merely relate to the functioning of a controller 14 to control a signal processor 13 so that a width of a boundary portion between a main picture and a sub-picture has a predetermined first width which can be discerned between the main picture and the sub-picture (see column 3, lines 25-30 of Kim '130). The disclosure of the cited patent also describes how the controller 14 controls the signal process 13 so that the width of the boundary portion between the main picture and the sub-picture becomes a predetermined second width (see column 3, lines 36-40 of the patent).

Nevertheless, there is no disclosure or suggestion in Kim '130 of the provision of an image sharpness part for adjusting a signal size presenting a borderline of the highlight portion according to a selection by selection means, as recited in amended independent claim 22. Furthermore, there is no instruction as to how one of ordinary skill in the art would modify the disclosure of Kuo *et al.* '040 (specifically, Figure 2 thereof) so as to incorporate an image sharpness part into the controller 231 thereof, or into any other portion of the disclosed arrangement of Kuo *et al.* '040, so as to achieve the results achieved by the display apparatus of claim 22 of the present application. Finally, there is no portion of the primary reference (Kuo *et al.* '040), and the Examiner has not cited any portion thereof, which would motivate or suggest to a person of ordinary skill in the art that the disclosure of Kim '130 should be sought for the purpose of modifying Kuo *et al.* '040 in accordance with the disclosure of Kim '130 in an effort to arrive at the present invention.

Finally, it should be noted that, in this Amendment, independent claim 22 is being further amended to recite that the "signal composing part [is] connected to said highlight signal generating part and to said signal generating means", and that the "image sharpness part [is] connected between said selection means and said signal composing part" (quoting from the last two paragraphs of amended independent claim 22). These interconnections, as now recited in independent claim 22, are not disclosed or suggested in the prior art cited by the Examiner, thus providing a further basis for distinguishing the invention from the cited prior art.

For the above reasons, it is submitted that the invention recited in independent claim 22 is distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §102 based on Kuo *et al.* '040, or under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040 in combination with Kim '130.

With respect to the rejection of independent claim 32 under 35 U.S.C. §102 based on Kuo *et al.* '040, in the previous final Office action (Paper No. 8), claim 32 was rejected under 35 U.S.C. §103 based on Kuo *et al.* '040. The Examiner alleged that Kuo *et al.* '040 disclosed control means which "further comprises a clock generating part for generating a clock signal to set up a size and a position of the highlight portion". In that regard, the Examiner alleged that the latter feature was "met by the pixel clock which is timing of displaying the further data (Fig. 3, col. 6, line 25 to col. 7, line 67)" (quoting from page 8,

lines 1-4 of the final Office action). The Examiner was apparently referring to the OSP signal generator 330 shown in Figure 3 of Kuo *et al.* '040 as receiving a pixel clock input from the displaying signal generator 256 of Figure 2 thereof. However, Kuo *et al.* '040 does not make it clear as to whether or how the pixel clock input provided to the OSP signal generator 330 results in the setting up of a size and a position of a highlight portion, as alleged by the Examiner. Therefore, it cannot be said that Kuo *et al.* '040 discloses or suggests the clock generating part recited in independent claim 32. Thus, for these reasons, a rejection of independent claim 32 under 35 U.S.C. §102 or §103 is clearly not appropriate.

Dependent claim 33 provides a further basis for distinguishing the invention from the cited prior art in that there is no disclosure or suggestion in Kuo *et al.* '040, or any other reference, of the control means further comprising an adjuster part connected to the clock generating part for receiving a clock signal, and for adjusting a size of the clock signal according to a control signal from selection means. The Examiner alleged (in the second paragraph on page 8 of the final Office action) that these elements and functions are met by vertical pixel shift register 404 and horizontal shift register 402, citing column 6, line 25-column 7, line 67 of Kuo *et al.* '040. However, again, it is not clear from the cited patent as to how the shift registers 402 and 404 perform a function of adjusting a size of a clock signal input according to a control signal from selection means, as recited in dependent claim 33.

For the latter reasons, it is submitted that independent claim 32 and associated dependent claim 33 recite the invention in a manner distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §103.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

No fee is incurred by this Amendment.

Respectfully submitted,

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Folio: P56382
Date: 5/19/05
I.D.: REB/JGS

P56382

14 July 2004

Applicant: JOO-HYOUNG LEE, et al.
Serial No.: 09/885,100
Filed: 21 June 2001
For: DISPLAYING APPARATUS AND METHOD FOR
CONTROLLING THE SAME

Document filed:

- ☒ Amendment in response to the final Office action (Paper No. 8) mailed on 20 May 2004.
- ☒ Fee Transmittal with check #45813 in amount of \$86.00

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ADDITIONAL FEES <table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Fee Description</th> <th rowspan="2">Fee Paid</th> </tr> <tr> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr> <td>1051</td> <td>130</td> <td>2051</td> <td>65</td> <td>Surcharge-late filing fee or oath</td> <td>\$</td> </tr> <tr> <td>1052</td> <td>50</td> <td>2052</td> <td>25</td> <td>Surcharge-late provisional filing fee or cover sheet</td> <td>\$</td> </tr> <tr> <td>1053</td> <td>130</td> <td>1053</td> <td>130</td> <td>Non-English specification</td> <td>\$</td> </tr> <tr> <td>1812</td> <td>2,520</td> <td>1812</td> <td>2,520</td> <td>For filing a request for reexamination</td> <td>\$</td> </tr> <tr> <td>1804</td> <td>920*</td> <td>1804</td> <td>920*</td> <td>Requesting publication of SIR prior to Examiner action</td> <td>\$</td> </tr> <tr> <td>1805</td> <td>1,840*</td> <td>1805</td> <td>1,840*</td> <td>Requesting publication of SIR after Examiner action</td> <td>\$</td> </tr> <tr> <td>1251</td> <td>110</td> <td>2251</td> <td>55</td> <td>Extension for reply within first month</td> <td>\$</td> </tr> <tr> <td>1252</td> <td>420</td> <td>2252</td> <td>210</td> <td>Extension for reply within second month</td> <td>\$</td> </tr> <tr> <td>1253</td> <td>950</td> <td>2253</td> <td>475</td> <td>Extension for reply within third month</td> <td>\$</td> </tr> <tr> <td>1254</td> <td>1,480</td> <td>2254</td> <td>740</td> <td>Extension for reply within fourth month</td> <td>\$</td> </tr> <tr> <td>1255</td> <td>2,010</td> <td>2255</td> <td>1,005</td> <td>Extension for reply within fifth month</td> <td>\$</td> </tr> <tr> <td>1401</td> <td>330</td> <td>2401</td> <td>165</td> <td>Notice of Appeal</td> <td>\$</td> </tr> <tr> <td>1402</td> <td>330</td> <td>2402</td> <td>165</td> <td>Filing a brief in support of an appeal</td> <td>\$</td> </tr> <tr> <td>1403</td> <td>290</td> <td>2403</td> <td>145</td> <td>Request for oral hearing</td> <td>\$</td> </tr> <tr> <td>1451</td> <td>1,510</td> <td>1451</td> <td>1,510</td> <td>Petition to institute a public use proceeding</td> <td>\$</td> </tr> <tr> <td>1452</td> <td>110</td> <td>2452</td> <td>55</td> <td>Petition to revive - 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45813

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ROBERT E. BUSHNELL

45813

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

JOO-HYOUNG LEE *et al.*

COPY

Serial No.: 09/885,100

Examiner: TRAN, TRANG U.

Filed: 21 June 2001

Art Unit: 2614

For: DISPLAYING APPARATUS AND METHOD FOR CONTROLLING THE
SAME

AMENDMENT AFTER FINAL

Mail Stop AF
Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the final Office action mailed on 20 May 2004 (Paper No. 8), entry of the following amendments and remarks, re-examination and reconsideration are respectfully requested.

Folio: P56382
Date: 7/14/04
I.D.: REB/JGS/kf

IN THE CLAIMS

Please cancel claim 25 without prejudice or disclaimer, and amend claims 22, 26 and 32, as follows:

1 1. (Previously Presented) A displaying apparatus, comprising:
2 a displaying part for displaying a picture;
3 a selection input part for selecting for display a highlight portion within the picture
4 of the displaying part;
5 a storage part for storing selection data according to the selection made through the
6 selection input part; and
7 a controller for generating a highlight signal corresponding to the highlight portion
8 based on the selection data, for composing the highlight signal with video signals to thereby
9 generate composed video signals, and for displaying the highlight portion within the picture
10 of the displaying part based on the composed video signals;
11 wherein the controller adds the highlight signal to the video signals to thereby
12 increase the level of the composed video signals of the highlight portion, and the controller
13 subtracts the highlight signal from the video signals to thereby decrease the level of the
14 composed video signals of the highlight portion.

Claims 2 and 3. (Canceled)

1 4. (Original) The displaying apparatus according to claim 1, wherein the selection
2 input part comprises a size control key for controlling a size of the highlight portion.

1 5. (Original) The displaying apparatus according to claim 4, wherein the selection
2 input part comprises a position control key for controlling a position of the highlight portion.

1 6. (Original) The displaying apparatus according to claim 5, wherein the highlight
2 signal comprises at least one color signal corresponding to the video signals; and
3 the selection input part comprises a signal control key for controlling a level of said
4 at least one color signal.

1 7. (Original) The displaying apparatus according to claim 4, wherein the highlight
2 signal comprises at least one color signal corresponding to the video signals; and
3 the selection input part comprises a signal control key for controlling a level of said
4 at least one color signal.

1 8. (Original) The displaying apparatus according to claim 1, wherein the highlight
2 signal comprises at least one color signal corresponding to the video signals; and
3 the selection input part comprises a signal control key for controlling a level of said
4 at least one color signal.

1 9. (Original) The displaying apparatus according to claim 1, wherein the selection
2 input part comprises a position control key for controlling a position of the highlight portion.

1 10. (Original) The displaying apparatus according to claim 9, wherein the highlight
2 signal comprises at least one color signal corresponding to the video signals; and
3 the selection input part comprises a signal control key for controlling a level of said
4 at least one color signal.

1 11. (Previously Presented) A method for controlling a displaying apparatus,
2 comprising the steps of:

3 selecting for display a highlight portion within a picture of the displaying apparatus;
4 generating a highlight signal corresponding to the highlight portion;
5 composing the highlight signal with video signals to thereby generate composed video
6 signals; and

7 displaying the highlight portion within the picture of the displaying apparatus;
8 wherein the composing step comprises adding the highlight signal to the video signals
9 to thereby increase a level of the composed video signals, and subtracting the highlight
10 signal from the video signals to thereby decrease a level of the composed video signals.

1 12. (Original) The method according to claim 11, further comprising the step of
2 storing data selected in the selecting step.

Claims 13 and 14. (Canceled)

1 15. (Original) The method according to claim 11, further comprising the step of
2 controlling a size of the highlight portion.

1 16. (Original) The method according to claim 15, further comprising the step of
2 controlling a position of the highlight portion.

1 17. (Original) The method according to claim 16, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one color
4 signal.

1 18. (Original) The method according to claim 15, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one color
4 signal.

1 19. (Original) The method according to claim 11, further comprising the step of
2 controlling a position of the highlight portion.

1 20. (Original) The method according to claim 19, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one color
4 signal.

1 21. (Original) The method according to claim 11, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one color
4 signal.

1 22. (Currently Amended) A display apparatus, comprising:
2 signal generating means for generating video signals;
3 displaying means for displaying a picture based on the video signals generated by the
4 signal generating means;
5 selection means for selecting for displaying a highlight portion within the picture of
6 the displaying means;
7 storage means for storing selection data according to the selection made through the
8 selection means; and
9 control means for generating a highlight signal corresponding to the highlight portion
10 based on the selection data;

11 wherein said control means comprises a highlight signal generating part for generating
12 the highlight signal, and a signal composing part for combining the highlight signal with the
13 video signals generated by the signal generating means; and

14 wherein said control means further comprises an image sharpness part for adjusting
15 a signal size representing a borderline of the highlight portion according to a selection by
16 said selection means, and for supplying the adjusted signal size to said signal composing
17 part.

1 23. (Previously Presented) The apparatus of claim 22, wherein said highlight signal
2 generating part comprises an R highlight signal generating part, a G highlight signal
3 generating part, and a B highlight signal generating part for generating R, G and B highlight
4 signals, respectively.

1 24. (Previously Presented) The apparatus of claim 23, wherein the video signals
2 generated by said signal generating means comprise R, G and B video signals, and the R
3 highlight signal generating part, the G highlight signal generating part, and the B highlight
4 signal generating part adjust the sizes of the R, G and B video signals, respectively.

Claim 25. (Canceled)

1 26. (Currently Amended) The apparatus of claim ~~[[25]]~~ 22, wherein said signal

2 composing part combines the video signals generated by said signal generating means with
3 borderline signals indicating the borderline of the highlight portion outputted by said image
4 sharpness part, and outputs a resultant combined signal to said displaying means.

1 27. (Previously Presented) The apparatus of claim 22, wherein said displaying means
2 comprises an on screen display (OSD) selecting part and a control key part for controlling
3 a size and a position of the highlight portion.

1 28. (Previously Presented) The apparatus of claim 27, wherein said control key part
2 comprises a size control key for controlling the size of the highlight portion, a position
3 control key for controlling the position of the highlight portion, and a signal control key for
4 controlling a value of the highlight signal.

1 29. (Previously Presented) The apparatus of claim 27, wherein said control means
2 further comprises an adjuster part for adjusting the picture in response to external signals
3 adjusted by said control key part.

1 30. (Previously Presented) The apparatus of claim 29, wherein selection of
2 highlighting by a user through said selection means causes highlight signals to be supplied
3 to said adjuster part through an SCL port and an SDA port connecting said selection means
4 to said control means.

1 31. (Previously Presented) The apparatus of claim 27, wherein a user can employ the
2 OSD selecting part to select the OSD so that said highlight portion and said OSD are
3 displayed simultaneously.

1 32. (Currently Amended) ~~[[The]]~~ A display apparatus of claim 22, comprising:
2 signal generating means for generating video signals;
3 displaying means for displaying a picture based on the video signals generated by the
4 signal generating means;
5 selection means for selecting for displaying a highlight portion within the picture of
6 the displaying means;
7 storage means for storing selection data according to the selection made through the
8 selection means; and
9 control means for generating a highlight signal corresponding to the highlight portion
10 based on the selection data;
11 wherein said control means comprises a highlight signal generating part for generating
12 the highlight signal, and a signal composing part for combining the highlight signal with the
13 video signals generated by the signal generating means; and
14 wherein said control means further comprises a clock generating part for generating
15 a clock signal to set up a size and a position of the highlight portion.

1 33. (Previously Presented) The apparatus of claim 32, said control means further
2 comprising an adjuster part connected to said clock generating part for receiving the clock
3 signal, and for adjusting a size of the clock signal according to a control signal from said
4 selection means.

1 34. (Previously Presented) The apparatus of claim 22, said control means further
2 comprising input terminals for receiving a control signal for controlling brightness of the
3 video signals.

1 35. (Previously Presented) The apparatus of claim 34, said video signals comprising
2 R, G and B signals, and said input terminals receiving R-brightness, G-brightness and B-
3 brightness signals, respectively.

REMARKS

The final Office action mailed on 20 May 2004 (Paper No. 8) has been carefully considered.

Claim 25 is being canceled without prejudice or disclaimer, and claims 22, 26 and 32 are being amended. Thus, claims 1, 4 thru 12, 15 thru 24 and 26 thru 35 are pending in the application.

It should be noted that the claims are being amended merely for the purpose of combining independent claim 22 and associated dependent claim 25, the latter being canceled, adjusting the dependency of dependent claim 26, and rewriting dependent claim 32 in independent form. Thus, no "new issue" is raised by these amendments, and accordingly, this Amendment After Final should be entered.

In paragraph 3 of the final Office action, the Examiner rejected claims 1, 4 thru 12, 15 thru 22 and 27 thru 34 under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.*, U.S. Patent No. 6,226,040. In paragraph 4 of the Office action, the Examiner rejected claims 23, 24, 30 and 35 under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040 in view of Suen *et al.*, U.S. Patent No. 6,552,750. In paragraph 5 of the Office action, the Examiner rejected claims 25 and 26 under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040 in view of Kim, U.S. Patent No. 6,473,130. For the reasons stated below, it

is submitted that the invention recited in the claims, as now amended, is distinguishable from the prior art cited by the Examiner so as to preclude rejection under 35 U.S.C. §103.

With respect to the latter rejections, it is noted that dependent claim 30 is listed, in the final Office action, as being rejected under 35 U.S.C. §103 based on Kuo *et al.* '040 alone, but it is also listed as rejected under 35 U.S.C. §103 based on the combination of Kuo *et al.* '040 with Suen *et al.* '750. It is requested that the rejection of claim 30 be clarified in the next action by the Examiner. In the meantime, it is presumed that dependent claim 30 is rejected under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040 in combination with Suen *et al.* '750.

In rejecting independent claims 1 and 11 under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040, the Examiner admitted (in paragraph 3 on page 4 of the final Office action) that Kuo *et al.* '040 does not disclose a controller which adds a highlight signal to video signals to thereby increase the level of the composed video signals of the highlight portion, and did not disclose a controller which subtracts the highlight signal from the video signals to thereby decrease the level of the composed video signals of the highlight portion. However, the Examiner took "Official Notice" that "it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the old and well known superimposing and desuperimposing the highlight signal on the video signal ... since it merely amounts of [*sic*] selecting an alternative equivalent device for adding highlight

signal and video signal" (quoting from the paragraph bridging pages 4 and 5 of the final Office action).

In support of the taking of "Official Notice", the Examiner cited (in paragraph 1 of the final Office action), Lake Jr., U.S. Patent No. 4,809,070. The Examiner cited this patent "to suggest the capabilities of adding and subtracting the luminance along edges of the luminance field (highlights and shadows)" (quoting from page 3, lines 3-4 of the final Office action). For the reasons stated below, it is submitted that Lake, Jr. '070 is unrelated and not applicable to the pertinent recitations contained in independent claims 1 and 11 of the present application.

Specifically, referring to column 1, lines 8-28 of Lake, Jr. '070 (as cited by the Examiner on page 2 of the final Office action), the patent states that, "[a]mong the video effects than can be applied to an array of sample values representing a luminance field to produce an enhanced array which represents a somewhat different luminance field is an effect known as embossing" (see column 1, lines 8-12 of Lake, Jr. '070). The patent then states that edge information is extracted from an image, and used to add luminance along edges of one polarity and subtract luminance along edges of the opposite polarity" (quoting from column 1, lines 12-15 of the patent). In the latter respect, according to the patent, the "term 'polarity' as applied to an edge is intended to be understood as referring to the sign of the change in luminance across the edge when the edge is traversed in a particular direction"

(quoting from column 1, lines 17-18 of the patent). Thus, if the luminance increases, the edge is considered to be a positive polarity, and if the luminance decreases, the edge is considered to be a negative polarity (*see* column 1, lines 18-21 of the patent).

The Lake, Jr. '070 patent then proceeds to state that, "[w]hen luminance is added and subtracted along edges in the original luminance field, the areas of increased and reduced luminance appear to the eye as highlights and shadows which provide three-dimensional cues for the eye and achieve an embossed texture appearance" (quoting from column 1, lines 23-28 of the patent). Thus, whereas the patent refers to the addition and subtraction of luminance along edges in an original luminance field (referring to column 1, lines 23-25 of the patent), this is not seen to have much, if any, relevance to the claimed feature whereby a controller adds a highlight signal to video signals in their entirety (not merely to edges) to thereby increase the level of composed video signals of a highlight portion, and whereby the controller subtracts the highlight signal from the video signals in their entirety to thereby decrease the level of the composed video signal of the highlight portion, and this contradicts the allegation by the Examiner in the sentence bridging pages 2 and 3 of the final Office.

More specifically, whereas Lake, Jr. '070 discloses the addition or subtraction of luminance along edges of an image, the claimed feature at issue involves the addition or subtraction of a highlight signal or highlight signals to video signals in order to increase the level of composed video signals of a highlight portion. More specifically, Lake, Jr. '070

appears to add luminance to the edges of an image, whereas the feature recited in the claims involves the addition of subtraction of a highlight signal to video signals in their entirety. Furthermore, a review of Lake, Jr. '070 fails to reveal any mention whatsoever of a highlight signal or highlight signals added to or subtracted from video signals, and fails to mention composed video signals of highlight portion, such composed signals resulting from the composing of a highlight signal or highlight signals with the video signals.

As a result of the above, it is submitted that a substantial question exists as to the propriety of the taking of "Official Notice" on the part of the Examiner, and this raises a question as to the validity of the rejection under 35 U.S.C. §103 of claims 1 and 11.

Furthermore, there is nothing within the "four corners" of the disclosure of Kuo *et al.* '040 which would suggest to or instruct a person of ordinary skill in the art as to the necessity or desirability of modifying the disclosure of Kuo *et al.* '040 in the manner suggested by the Examiner. That is, Kuo *et al.* '040 does not contain any suggestion or instruction which would lead a person of ordinary skill in the art to modify the disclosure of Kuo *et al.* '040 so as to provide the controller with the capability of adding or subtracting a highlight signal from video signals in order to increase or decrease the level of the composite video signals of the highlight portion.

For the above reasons, it is respectfully submitted that independent claims 1 and 11,

and their associated dependent claims, recite the invention in a manner distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §103.

Turning to consideration of amended independent claim 22, that claim is being amended to include the recitation of dependent claim 25, which is being canceled. As mentioned above, dependent claim 25 was rejected under 35 U.S.C. §103 based on the combination of Kuo *et al.* '040 with Kim '130.

Initially, with respect to original independent claim 22, it is noted that, on page 6 of the final Office action, the Examiner merely stated that claim 22 was "rejected for the same reason as discussed in claim 1" (quoting from page 6, line 9 of the final Office action). However, it is to be noted that, whereas independent claim 1 recites the control means in general terms, independent claim 22 recites the control means as comprising a highlight signal generating part for generating the highlight signal, and a signal composing part for combining the highlight signal with the video signals generated by the signal generating means (*see* the last paragraph of original independent claim 22). However, in rejecting independent claims 1 and 22, the Examiner does not state any correspondence between the recited "highlight signal generating part" and "signal composing part", on the one hand, and elements of Kuo *et al.* '040, on the other hand. Thus, it is not clear from the final Office action what elements of Kuo *et al.* '040 correspond to the "highlight signal generating part" and the "signal composing part" recited in the last paragraph of original independent claim

22.

Nevertheless, as stated above, independent claim 22 is being amended to include the recitation of dependent claim 25, which has been canceled. In rejecting claim 25 (in paragraph 5 of the final Office action), the Examiner cited the combination of Kuo *et al.* '040 and Kim '130, and admitted that Kuo *et al.* '040 did not disclose the provision of control means further comprising an image sharpness part for adjusting a signal size representing a borderline of the highlight portion according to a selection by the selection means, and for supplying the adjusted signal size to the signal composing part (*see* the second sub-paragraph of paragraph 5 on page 10 of the final Office action). However, the Examiner alleged that Kim '130 "teaches that the sub-picture display apparatus according to the present invention provides an effect capable of distinctively displaying the sub-picture more definitely and clearly, by thickening the boundary portion of the sub-picture and varying the brightness of the sub-picture to become brighter, in the case that the main picture is complicated spatially or an amount of temporal movement of the main picture is large" (quoting from page 10, lines 11-16 of the final Office action). In that regard, the Examiner cited Figure 4 and column 3, line 5 - column 4, line 8 of Kim '130.

However, Figure 4 and the cited portion of Kim '130 merely relate to the functioning of a controller 14 to control a signal processor 13 so that a width of a boundary portion between a main picture and a sub-picture has a predetermined first width which can be

discerned between the main picture and the sub-picture (*see* column 3, lines 25-30 of Kim '130). The disclosure of the cited patent also describes how the controller 14 controls the signal process 13 so that the width of the boundary portion between the main picture and the sub-picture becomes a predetermined second width (*see* column 3, lines 36-40 of the patent).

Nevertheless, there is no disclosure or suggestion in Kim '130 of the provision of an image sharpness part for adjusting a signal size presenting a borderline of the highlight portion according to a selection by selection mean, as recited in amended independent claim 22. Furthermore, there is no instruction as to how one of ordinary skill in the art would modify the disclosure of Kuo *et al.* '040 (specifically, Figure 2 thereof) so as to incorporate an image sharpness part into the controller 231 thereof, or into any other portion of the disclosed arrangement of Kuo *et al.* '040, so as to achieve the results achieved by the display apparatus of claim 22 of the present application. Finally, there is no portion of the primary reference (Kuo *et al.* '040), and the Examiner has not cited any portion thereof, which would motivate or suggest to a person of ordinary skill in the art that the disclosure of Kim '130 should be sought for the purpose of modifying Kuo *et al.* '040 in accordance with the disclosure of Kim '130 in an effort to arrive at the present invention.

For the above reasons, it is submitted that the invention recited in independent claim 22, as now amended, is distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040 in combination with Kim

'130.

As also mentioned above, dependent claim 32 has been amended to appear in independent form. In rejecting previous dependent claim 32 under 35 U.S.C. §103 based on Kuo *et al.* '040, the Examiner alleged that Kuo *et al.* '040 disclosed control means which "further comprises a clock generating part for generating a clock signal to set up a size and a position of the highlight portion", the Examiner alleging that the latter feature was "met by the pixel clock which is timing of displaying the further data (Fig. 3, col. 6, line 25 to col. 7, line 67)" (quoting from page 8, lines 1-4 of the final Office action). The Examiner is apparently referring to the OSP signal generator 330 shown in Figure 3 of Kuo *et al.* '040 as receiving a pixel clock input from the displaying signal generator 256 of Figure 2 thereof. However, Kuo *et al.* '040 does not make it clear as to whether or how the pixel clock input provided to the OSP signal generator 330 results in the setting up of a size and a position of a highlight portion, as alleged by the Examiner. Therefore, it cannot be said that Kuo *et al.* '040 discloses or suggests the clock generating part recited in amended claim 32.

Dependent claim 33 provides a further basis for distinguishing the invention from the cited prior art in that there is no disclosure or suggestion in Kuo *et al.* '040, or any other reference, of the control means further comprising an adjuster part connected to the clock generating part for receiving a clock signal, and for adjusting a size of the clock signal according to a control signal from selection means. The Examiner alleges (in the second

paragraph on page 8 of the final Office action) that these elements and functions are met by vertical pixel shift register 404 and horizontal shift register 402, citing column 6, line 25- column 7, line 67 of Kuo *et al.* '040. However, again, it is not clear from the cited patent as to how the shift registers 402 and 404 perform a function of adjusting a size of a clock signal input according to a control signal from selection means, as recited in dependent claim 33.

For the latter reasons, it is submitted that independent claim 32 and associated dependent claim 33 recite the invention in a in a manner distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §103.

A fee of \$86.00 is incurred by the addition of an independent claim in excess of three.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

Respectfully submitted,

Robert E. Bushnell,
Attorney for the Applicant
Registration No.: 27,774

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Folio: P56382
Date: 7/14/04
I.D.: REB/JGS



P56382

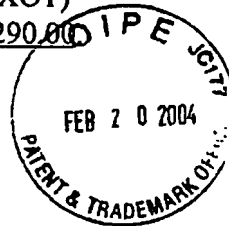
20 February 2004

Applicant: JOO-HYOUNG LEE et al.
Serial No.: 09/885,100
Filed: 21 June 2001
For: *DISPLAYING APPARATUS AND METHOD FOR CONTROLLING
THE SAME*

Document filed:

1. Amendment in response to the first Office action (Paper No. 4) dated 19 November 2003.
2. Transmittal of Formal Drawings w/ Fig. 3 and Annotated sheet of Fig.3
3. Petition for One-month Extension of Time (IXOT)
4. Fee transmittal/check #45340 in amount of \$290.00

COPY



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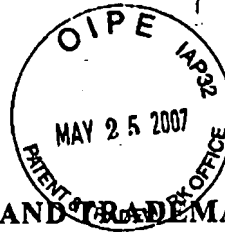
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Amendment - extra claims fee + 1xot 09/885.100

SECURITY FEATURES INCLUDED. DETAILS ON BACK.





PATENT
P56382

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

JOO-HYOUNG LEE *et al.*

COPY

Serial No.: 09/885,100

Examiner: TRAN, TRANG U.

Filed: 21 June 2001

Art Unit: 2614

For: DISPLAYING APPARATUS AND METHOD FOR CONTROLLING THE
SAME

AMENDMENT

Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the first Office action mailed on 19 November 2003 (Paper No. 4), entry of the following amendments and remarks, re-examination and reconsideration are respectfully requested.

The period for response is being extended to and through 19 March 2004 by a Petition for a one month extension of time and its appropriate fee concurrently submitted with this Amendment.

Folio: P56382
Date: 2/20/04
I.D.: REB/JGS/kf/rfc

IN THE SPECIFICATION

1. Please amend paragraph [0015] as follows:

[0015] As a further preference, the composing or combining step comprises the steps of adding the highlight signal to the video signals to thereby increase the level of the composed or combined video signal, and ~~eliminating~~ subtracting the highlight signal from the video signal to thereby decrease the level of the composed or combined video signal.

2. Please amend paragraphs [0035]-[0036] as follows:

[0035] The image sharpness part 8 adjusts the signal size representing the borderline of the highlight portion according to a selection by the selection input part 3, and supplies the adjusted signal size to the signal composing part 9.

[0036] The signal composing part 9 composes or combines the original R, G and B signals, the highlight signals of R, G and B outputted from the highlight signal generating part 7, and borderline signals indicating the borderline of the highlight portion 15 outputted from the image sharpness part 8, and signal composing part 9 outputs the highlight signal to indicate the highlight portion 15.

3. Please amend paragraph [0044] as follows:

[0044] As shown in Figs. 5 and 6, the video signals which are generated from the signal generating part 1 and supplied to the displaying part 13 in step S1 are R, G & B signals

having their specific voltages. If "To Highlight" is selected through the selection input part 3 in step S5, the highlight portion 15 is displayed in a portion of the displaying part 13. The size and ~~portion~~ position of the highlight portion 15 can be adjusted through the size control key and the position control key, respectively. If the size and the position of the highlight portion 15 are adjusted, the highlight signal generating part 7 generates highlight signals having a level of voltage sufficient to maintain the brightness of the picture as desired. The generated highlight signals are composed or combined with the video signals, to thereby generate composed or combined video signals. For example, if the video signal voltages are supplied with 0.5V and the highlight signal voltages are supplied with 0.2V, the voltage of the highlight portion 15 is 0.7V, thereby making the picture brighter.

IN THE CLAIMS

Please cancel claims 2, 3, 13 and 14 without prejudice or disclaimer, amend claims 1 and 11, and add claims 22 thru 35, as follows:

1 1. (Currently Amended) A displaying apparatus, comprising:
2 a displaying part for displaying a picture;
3 a selection input part for selecting for display a highlight portion within the
4 picture of the displaying part;
5 a storage part for storing selection data according to the selection made through
6 the selection input part; and
7 a controller for generating a highlight signal corresponding to the highlight portion
8 based on the ~~selected~~ selection data, for composing the highlight signal with video
9 signals to thereby generate composed video signals, and for displaying the highlight
10 portion within the picture of the displaying part based on the composed video signals;
11 wherein the controller adds the highlight signal to the video signals to thereby
12 increase the level of the composed video signals of the highlight portion, and the
13 controller subtracts the highlight signal from the video signals to thereby decrease the
14 level of the composed video signals of the highlight portion.

Claims 2 and 3. (Canceled)

1 4. (Original) The displaying apparatus according to claim 1, wherein the selection
2 input part comprises a size control key for controlling a size of the highlight portion.

1 5. (Original) The displaying apparatus according to claim 4, wherein the selection
2 input part comprises a position control key for controlling a position of the highlight
3 portion.

1 6. (Original) The displaying apparatus according to claim 5, wherein the
2 highlight signal comprises at least one color signal corresponding to the video signals;
3 and
4 the selection input part comprises a signal control key for controlling a level of
5 said at least one color signal.

1 7. (Original) The displaying apparatus according to claim 4, wherein the
2 highlight signal comprises at least one color signal corresponding to the video signals;
3 and
4 the selection input part comprises a signal control key for controlling a level of
5 said at least one color signal.

1 8. (Original) The displaying apparatus according to claim 1, wherein the
2 highlight signal comprises at least one color signal corresponding to the video signals;

3 and

4 the selection input part comprises a signal control key for controlling a level of
5 said at least one color signal.

1 9. (Original) The displaying apparatus according to claim 1, wherein the selection
2 input part comprises a position control key for controlling a position of the highlight
3 portion.

1 10. (Original) The displaying apparatus according to claim 9, wherein the
2 highlight signal comprises at least one color signal corresponding to the video signals;
3 and

4 the selection input part comprises a signal control key for controlling a level of
5 said at least one color signal.

1 11. (Currently Amended) A method for controlling a displaying apparatus,
2 comprising the steps of:

3 selecting for display a highlight portion within a picture of the displaying
4 apparatus;

5 generating a highlight signal corresponding to the highlight portion;

6 composing the highlight signal with video signals to thereby generate composed
7 video signals; and

8 displaying the highlight portion within the picture of the displaying apparatus;

9 wherein the composing step comprises adding the highlight signal to the video
10 signals to thereby increase a level of the composed video signals, and subtracting the
11 highlight signal from the video signals to thereby decrease a level of the composed video
12 signals.

1 12. (Original) The method according to claim 11, further comprising the step of
2 storing data selected in the selecting step.

Claims 13 and 14. (Canceled)

1 15. (Original) The method according to claim 11, further comprising the step of
2 controlling a size of the highlight portion.

1 16. (Original) The method according to claim 15, further comprising the step of
2 controlling a position of the highlight portion.

1 17. (Original) The method according to claim 16, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;

3 said method further comprising the step of controlling a level of said at least one
4 color signal.

1 18. (Original) The method according to claim 15, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one
4 color signal.

1 19. (Original) The method according to claim 11, further comprising the step of
2 controlling a position of the highlight portion.

1 20. (Original) The method according to claim 19, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one
4 color signal.

1 21. (Original) The method according to claim 11, wherein the highlight signal
2 comprises at least one color signal corresponding to the video signals;
3 said method further comprising the step of controlling a level of said at least one
4 color signal.

1 22. (New) A display apparatus, comprising:
2 signal generating means for generating video signals;

3 displaying means for displaying a picture based on the video signals generated by
4 the signal generating means;

5 selection means for selecting for displaying a highlight portion within the picture
6 of the displaying means;

7 storage means for storing selection data according to the selection made through
8 the selection means; and

9 control means for generating a highlight signal corresponding to the highlight
10 portion based on the selection data;

11 wherein said control means comprises a highlight signal generating part for
12 generating the highlight signal, and a signal composing part for combining the highlight
13 signal with the video signals generated by the signal generating means.

1 23. (New) The apparatus of claim 22, wherein said highlight signal generating
2 part comprises an R highlight signal generating part, a G highlight signal generating part,
3 and a B highlight signal generating part for generating R, G and B highlight signals,
4 respectively.

1 24. (New) The apparatus of claim 23, wherein the video signals generated by said
2 signal generating means comprise R, G and B video signals, and the R highlight signal
3 generating part, the G highlight signal generating part, and the B highlight signal
4 generating part adjust the sizes of the R, G and B video signals, respectively.

1 25. (New) The apparatus of claim 22, wherein said control means further
2 comprises an image sharpness part for adjusting a signal size representing a borderline of
3 the highlight portion according to a selection by said selection means, and for supplying
4 the adjusted signal size to said signal composing part.

1 26. (New) The apparatus of claim 25, wherein said signal composing part
2 combines the video signals generated by said signal generating means with borderline
3 signals indicating the borderline of the highlight portion outputted by said image
4 sharpness part, and outputs a resultant combined signal to said displaying means.

1 27. (New) The apparatus of claim 22, wherein said displaying means comprises
2 an on screen display (OSD) selecting part and a control key part for controlling a size and
3 a position of the highlight portion.

1 28. (New) The apparatus of claim 27, wherein said control key part comprises a
2 size control key for controlling the size of the highlight portion, a position control key for
3 controlling the position of the highlight portion, and a signal control key for controlling a
4 value of the highlight signal.

1 29. (New) The apparatus of claim 27, wherein said control means further

2 comprises an adjuster part for adjusting the picture in response to external signals
3 adjusted by said control key part.

1 30. (New) The apparatus of claim 29, wherein selection of highlighting by a user
2 through said selection means causes highlight signals to be supplied to said adjuster part
3 through an SCL port and an SDA port connecting said selection means to said control
4 means.

1 31. (New) The apparatus of claim 27, wherein a user can employ the OSD
2 selecting part to select the OSD so that said highlight portion and said OSD are displayed
3 simultaneously.

1 32. (New) The apparatus of claim 22, wherein said control means further
2 comprises a clock generating part for generating a clock signal to set up a size and a
3 position of the highlight portion.

1 33. (New) The apparatus of claim 32, said control means further comprising an
2 adjuster part connected to said clock generating part for receiving the clock signal, and
3 for adjusting a size of the clock signal according to a control signal from said selection
4 means.

1 34. (New) The apparatus of claim 22, said control means further comprising input
2 terminals for receiving a control signal for controlling brightness of the video signals.

1 35. (New) The apparatus of claim 34, said video signals comprising R, G and B
2 signals, and said input terminals receiving R-brightness, G-brightness and B-brightness
3 signals, respectively.

REMARKS

The Office action mailed on 19 November 2003 (Paper No. 4) has been carefully considered.

The specification is being amended to correct minor errors and improve form. Claims 2, 3, 13 and 14 are being canceled without prejudice or disclaimer, claims 1 and 11 are being amended, and new claims 22 thru 35 are being added. Thus, claims 1, 4 thru 12 and 15 thru 35 are pending in the application.

In paragraph 2 of the Office action, the Examiner rejected claims 1, 4 thru 12 and 15 thru 21 under 35 U.S.C. §102 for alleged anticipation by Kuo *et al.*, U.S. Patent No. 6,226,040. In paragraph 4 of the Office action, the Examiner rejected claims 2, 3, 13 and 14 under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040. For the reasons stated below, it is submitted that the invention recited in the claims, as now amended, is distinguishable from the prior art cited by the Examiner so as to preclude rejection under 35 U.S.C. §102 or §103.

Independent claim 1 is being amended to include the recitations from dependent claims 2 and 3, which are being canceled. Similarly, independent claim 11 is being amended to include the recitations from dependent claims 13 and 14, which are being canceled. It is submitted that these amendments to independent claims 1 and 11 should

result in allowance of independent claims 1 and 11 and their associated dependent claims.

In rejecting dependent claims 2, 3, 13 and 14 under 35 U.S.C. §103 for alleged unpatentability over Kuo *et al.* '040, the Examiner admitted (in paragraph 4 of the Office action) that Kuo *et al.* '040 did not disclose a controller which adds a highlight signal to video signals to thereby increase the level of the composed video signals of the highlight portion, and did not disclose a controller which tracks the highlight signal from the video signals to thereby decrease the level of the composed video signals of the highlight portion. However, the Examiner took "Official Notice" that "it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the old and well known superimposing the highlight signal on the video signal ... since it merely amounts of [*sic*] selecting an alternative equivalent device for adding highlight signal and video signal" (quoting from the paragraph bridging pages 4 and 5 of the Office action). The Examiner further took "Official Notice" and concluded that "it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the old and well known desuperimposing the highlight signal on the video signal ... since it merely amounts of [*sic*] selecting an alternative equivalent device for removing highlight signal from video signal" (quoting from the first complete paragraph on page 5 of the Office action).

However, in taking the latter "Office Notice", the Examiner did not place on the

record of this application any evidence of the assertions that adding and/or subtracting a highlight signal from the video signals to thereby increase and/or decrease the level of the composed video signals of the highlight portion was "old and well known" in the art. It should be noted that, under the rules and the law governing rejections under 35 U.S.C. §103, it is incumbent upon the Examiner to support such assertions by placing on the record evidence, in the form of prior patents or publications, of the fact that such features and functions are "old and well known" in the art.

Furthermore, there is nothing within the "four corners" of the disclosure of Kuo *et al.* '040 which would suggest to or instruct a person of ordinary skill in the art as to the necessity or desirability of modifying the disclosure of Kuo *et al.* '040 in the manner suggested by the Examiner. That is, Kuo *et al.* '040 does not contain any suggestion or instruction which would lead a person of ordinary skill in the art to modify the disclosure of Kuo *et al.* '040 so as to provide the controller with the capability of adding or subtracting a highlight signal from video signals in order to increase or decrease the level of the composite video signals of the highlight portion.

For the above reasons, it is respectfully submitted that independent claims 1 and 11, and their associated dependent claims, recite the invention in a manner distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §103.

New independent claim 22 and associated dependent claims 23 thru 35 are being added to provide complete protection of the invention by reciting various additional features of the displaying apparatus of the present invention. It should be noted that the elements and functions recited in independent claim 22 and associated dependent claims 23 thru 35 are fully disclosed in and supported by the disclosure of the present application, as originally filed.

It should be further noted that neither Kuo *et al.* '040 or any other reference cited in this application discloses or suggests a displaying apparatus comprising signal generating means, displaying means, selection means, storage means and control means with the functions recited in independent claim 22, wherein the control means comprises a highlight signal generating part and a signal composing part with the respective functions recited in the claim. It should also be noted that dependent claims 23 thru 35 recite the displaying apparatus of claim 22 in further detail so as to further define the invention over the prior art cited by the Examiner.

Finally, Figure 3 is being corrected to add reference numeral 17 which is mentioned in paragraph [0040] of the specification, and thereby rendering the figure consistent with the specification, as originally filed. Substitute formal Figure 3 which incorporates this correction is attached. Entry of formal Figure 3, in writing in the next Office action, is respectfully requested.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

A fee of \$180.00 is incurred by the addition of ten (10) total claims in excess of total 21. Additionally, a fee of \$110.00 is incurred by the filing of a Petition for a three-months extension of time attached hereto. Applicant's check drawn to the order of Commissioner accompanies this Amendment. Should the check become lost, be deficient in payment, or should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

Respectfully submitted,

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Date: 2/20/04
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